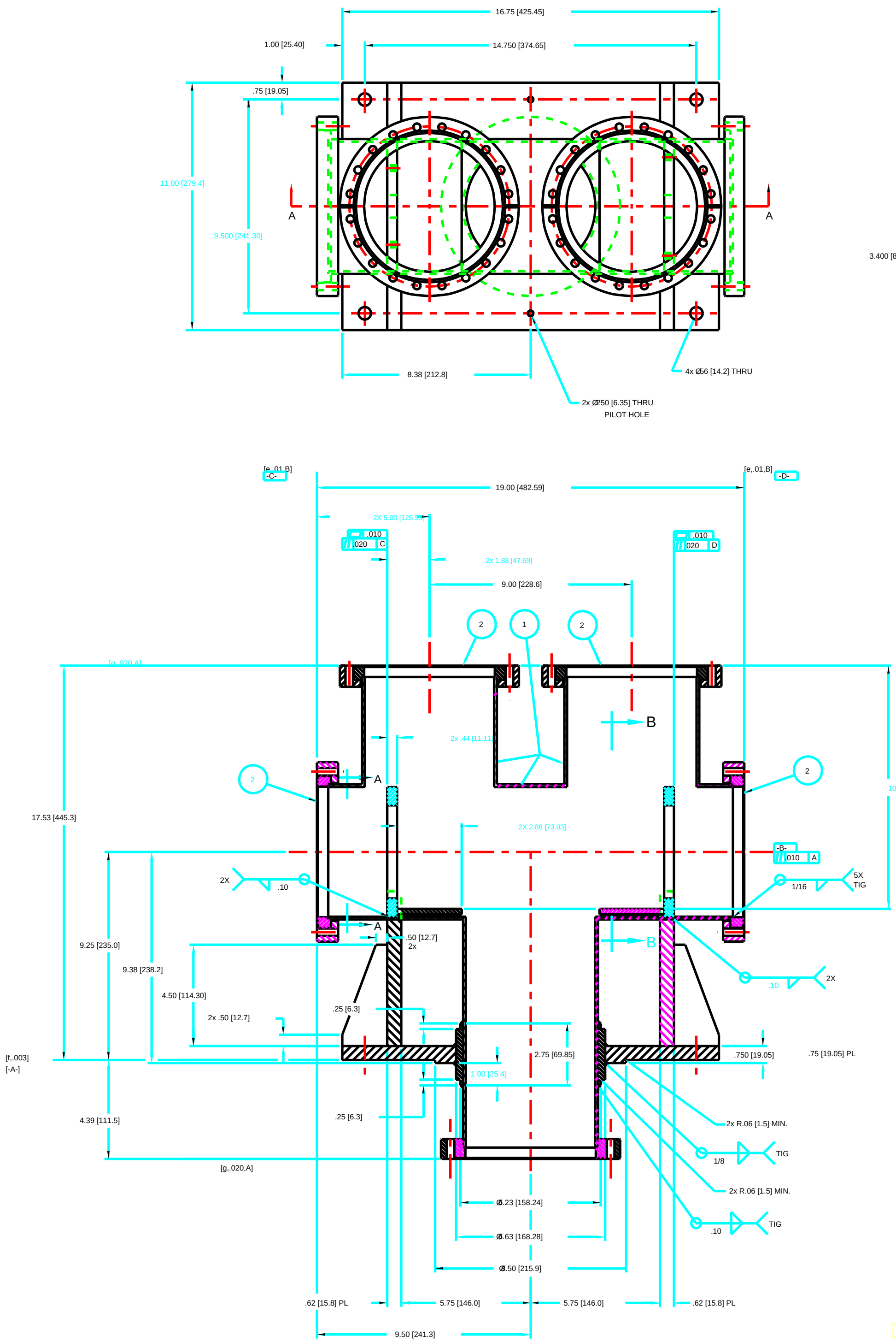
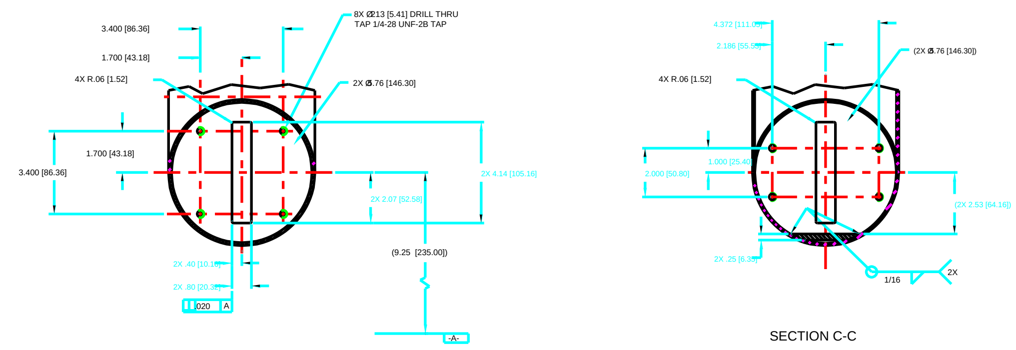
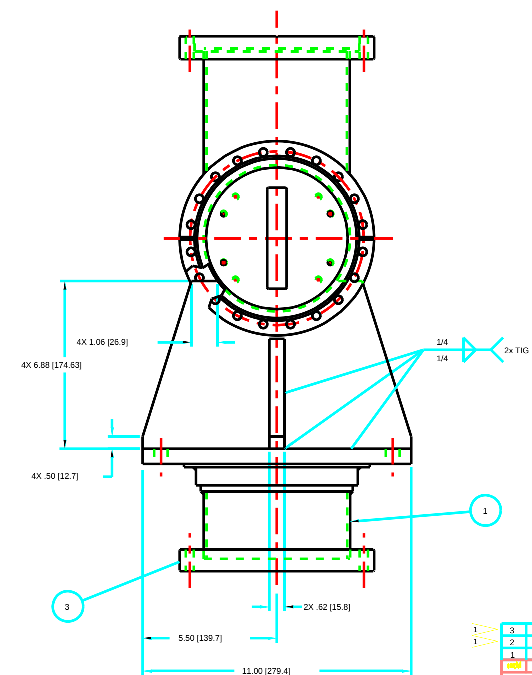


SECTION A-A



SECTION B-B

SECTION C-C



NOTE:

1. THIS IS A ULTRA-HIGH VACUUM CHAMBER (UHV).

2. WHEN MACHINING VACUUM PARTS, USE OF SILICONE AND SULPHUR-BASED CUTTING FLUIDS IS PROHIBITED. USE ONE OF THE FOLLOWING:
A) CIMCOOL 5 STAR 49
B) TRIM SOL

3. ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE CHAMBER NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOW DOWN. THE CHAMBER VACUUM SIDE SURFACE ROUGHNESS SHALL BE BETTER THAN 63 MICROINCH RMS AFTER ELECTROPOLISHING.

4. WELD SHALL BE GAS TUNGSTEN ARC (GTAW) OR TUNGSTEN INERT GAS (TIG) ON VACUUM SIDE OF JOINTS.

5. VACUUM CHAMBER SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2 x 10 STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS:

ALCATEL ASM-110TCL
VARIAN NCR 925 OR 936
VEECO MS-9, MS-90 OR MS-18
DuPONT CEC 24-120B

CALIBRATION OF THE LEAK DETECTOR SENSITIVITY SHALL BE PERFORMED JUST PRIOR TO TESTING. FINAL TEST WILL CONSIST OF SURROUNDING THE CHAMBER (BAGGING) WITH HELIUM, THE CHAMBER WILL BE REJECTED IF A 2% DEFLECTION IN THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.

6. ALL FLANGES ARE TO BE PERPENDICULAR TO TANK AXIS IN .030 .

7. ALL DIMENSIONS IN [ ] ARE MILLIMETERS AND ARE FOR REFERENCE ONLY.

8. MACHINE 63 FINISH FOR ALL VACUUM SURFACE BEFORE ELECTROPOLISHING.

9. ALL MATERIAL IS 304 SST UNLESS OTHERWISE SPECIFIED.

REFERENCE SOURCE

1 MDC VACUUM PRODUCTS CORP.
23842 CABOT BOULEVARD
HAYWARD, CA. 94545-1651
(800)-443-8817

1	3	MDC #110031	FLANGE 8" NOM. NONROTATABLE	SST 304	1
1	2	MDC #100031	FLANGE 8" NOM. ROTATABLE	SST 304	4
	1		TUBING 6.00 O.D. x .120 WALL	SST 304	AS REQ'D.

PARTS LIST

ARGONNE NATIONAL LABORATORY

ADVANCED PHOTON SOURCE

P8-60 ID
MONO. INTEGRAL SHUTTER
VACUUM CHAMBER WELDMENT

MUSCIA	12/17/97	D.SHU	1/27/98
J.CHANG	1/23/98	T.M.KUZAY	2/5/98
CHANG/MUSCIA	12/17/98		
J.CHANG	1/23/98		

P8610000-00

.03 .01 .005 .25 125

SEE PARTS LIST

HALF

1:1

E

P8-610000-00